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<b>TRANSMITTAL FORM</b> <i>(to be used for all correspondence after initial filing)</i>	Application Number	10/782,142	
	Filing Date	02/19/2004	
	First Named Inventor	Dr. Kelly Brian Cameron	
	Art Unit	2631	
	Examiner Name		
Total Number of Pages in This Submission	8	Attorney Docket Number	BP3448

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input checked="" type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance communication to Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): 1. cover letter, 2. Letter of Authorization (LOA), 3. 37 C.F.R. §3.73(b) Statement by Assignee, 4. copy of the originally filed assignment document, 5. return postcard
Remarks		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Garlick Harrison & Markison, LLP (USPTO CN 34399) Shayne X. Short, Ph.D. (Reg. No. 45,105)
Signature	
Date	06/28/2004

CERTIFICATE OF TRANSMISSION/MAILING	
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.	
Typed or printed name	Diane Hudson
Signature	
Date	6-28-04

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



**PATENT APPLICATION  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Inventor(s):** Dr. Kelly Brian Cameron,  
Hau Thien Tran, and Ba-Zhong Shen,  
Ph.D.

**Examiner:** n/a

**Application Serial No:** 10/782,142

**Art Group:** 2631

**Application Filing Date:** 02/19/2004

**Confirmation No:** 5220

**Patent No:** n/a

**Attorney Docket No:** BP3448

**Patent Issue Date:** n/a

**Title:** Efficient LDPC code decoding with new minus operator in a finite precision radix system

Date: Monday, June 28, 2004 (06/28/2004)

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

The Applicant is respectfully submitting herewith a Letter of Authorization (LOA) from Assignee's CTO (Chief Technical Officer)/Co-Chairman, Henry Samueli, Ph.D., a Power of Attorney from Assignee, and a 37 C.F.R. §3.73(b) Statement made by the Assignee.

In addition, the Applicant is submitting a copy of the originally filed assignment (including Recordation Form Cover Sheet) that was submitted with the initial U.S. utility patent application filing.

The Examiner is invited to contact the undersigned by telephone or facsimile to answer any questions or to provide any additional information that may be necessary.

RESPECTFULLY SUBMITTED,

By: \_\_\_\_\_

Shayne X. Short, Ph.D.

Reg. No. 45,105

Direct Phone: (512) 825-1145

Direct Fax No. (512) 394-0054

**GARLICK HARRISON & MARKISON LLP**

ATTORNEYS AT LAW

USPTO CN 34399

P.O. Box 160727

AUSTIN, TEXAS 78716-0727

TELEPHONE (512) 825-1145 / FACSIMILE1 (512) 394-0054 / FACSIMILE2 (512) 264-3735



BP3448

BROADCOM CORPORATION  
16215 Alton Parkway  
Irvine, California 92618

Phone: 949-450-8700  
Fax: 949-450-8710

May 20, 2003

To whom it may concern:

I, Henry Samueli, hereby authorize Dee Henderson, Intellectual Property Portfolio Manager, to execute documents relating to US and foreign patent and trademark matters on behalf of Broadcom Corporation and/or its subsidiaries.

Henry Samueli, Ph.D.  
Chief Technical Officer and Co-Chairman



### POWER OF ATTORNEY FROM ASSIGNEE

Broadcom Corporation, a California corporation having a principal place of business at 16215 Alton Parkway, Irvine, California 92618-7013, is assignee of the entire right, title and interest for the United States of America (as defined in 35 U.S.C. § 100), by reason of an Assignment to the Assignee executed on 2/13/04 of an invention known as

**Efficient LDPC code decoding with new minus operator in a finite precision radix system (Attorney Docket No. BP3448)**

which is disclosed and claimed in a patent application of the same title by the inventor(s)

**Dr. Kelly Brian Cameron, Hau Thien Tran, and Ba-Zhong Shen, Ph.D.**

(said application filed on 2/19/04 at the U.S. Patent and Trademark Office, having Application Number 10/782,142).

The Assignee hereby appoints the U.S. attorneys/agents associated with Garlick, Harrison & Markison, LLP (USPTO CN 34399) to prosecute this application and any continuation, divisional, continuation-in-part, or reissue application thereof, and to transact all business in the U.S. Patent and Trademark Office connected therewith, such attorneys/agents currently being:

Bruce E. Garlick	Reg. No. 36,520
James A. Harrison	Reg. No. 40,401
Timothy W. Markison	Reg. No. 33,534
Shayne X. Short, Ph.D.	Reg. No. 45,105
William W. Kidd	Reg. No. 31,772
Robert A. McLauchlan III	Reg. No. 44,924

The Assignee hereby grants said attorneys/agents the power to insert on this Power of Attorney any further identification that may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

Please send correspondence to: GARLICK HARRISON & MARKISON LLP  
P.O. BOX 160727  
AUSTIN, TEXAS 78716-0727.

Please direct phone calls to: Shayne X. Short, Ph.D. (512) 825-1145.

FOR: Broadcom Corporation

SIGNATURE: \_\_\_\_\_

BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

DATE: \_\_\_\_\_

Dee Henderson  
Manager, Intellectual Property Portfolio

February 27, 2004



BP3448

**Certificate Under 37 CFR 3.73(b)**

Applicants: Dr. Kelly Brian Cameron Hau Thien Tran Ba-Zhong Shen, Ph.D.

Entitled: **EFFICIENT LDPC CODE DECODING WITH NEW MINUS OPERATOR IN A FINITE PRECISION RADIX SYSTEM**Application No. **10/782,142**Filing Date: **2/19/04****Broadcom Corporation**

(Name of Assignee)

**a, California Corporation**

(Type of Assignee)

states that it is :

1. ☒ the assignee of the entire right, title, and interest; or  
2. ☐ an assignee of an undivided part interest

in the patent application/patent identified above by virtue of either :

- A. ☒ An Assignment for the inventor(s) of the patent application/patent identified above. The assignment was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

OR

- B. ☐ A chain of title for the inventor(s) of the patent application/patent identified above to the current assignee as shown below:

1. From \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.  
2. From \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.  
3. From \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

- ☐ Additional documents in the chain of title are listed on a supplemental sheet.  
☒ Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the PTO. See MPEP 302-302.8]

The undersigned (whose title is supplied below) is empowered to act on behalf of the assignee.

Date: **February 27, 2004**Name: **Dee Henderson**  
Manager, Intellectual Property Portfolio

Title: \_\_\_\_\_

Signature: \_\_\_\_\_



Form PTO-1595  
(Rev. 10/02)

OMB No. 0651-0027 (exp. 6/30/2005)

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RECORDATION FORM COVER SHEET  
**PATENTS ONLY**

U.S. DEPARTMENT OF COMMERCE  
U.S. Patent and Trademark Office

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Dr. Kelly Brian Cameron  
Hau Thien Tran  
Ba-Zhong Shen, Ph.D.

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other \_\_\_\_\_

02/12/2003

02/13/2004

Execution Date: \_\_\_\_\_

2. Name and address of receiving party(ies)

Name: Broadcom Corporation

Internal Address: \_\_\_\_\_

Street Address: 16215 Alton Parkway

City: Irvine State: CA Zip: 92618-7013

Additional name(s) & address(es) attached? ☐ Yes ☒ No

4. Application number(s) or patent number(s):

Attorney Docket No. BP3448 (new patent application)

If this document is being filed together with a new application, the execution date of the application is: 02/19/2004

A. Patent Application No.(s) \_\_\_\_\_

B. Patent No.(s) \_\_\_\_\_

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Garlick Harrison & Markison LLP

Internal Address: USPTO CN 34399

ATTN: Shayne X. Short, Ph.D.

Street Address: P.O. Box 160727

City: Austin State: TX Zip: 78716-0727

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41).....\$ 40.00

☒ Enclosed (PTO-2038 Credit Card Payment Form Enclosed)

☐ Authorized to be charged to deposit account

8. Deposit account number:

DO NOT USE THIS SPACE

9. Signature.

Shayne X. Short, Ph.D. (Reg. No.: 45,105)

Name of Person Signing

Signature

02/19/2004

Date

Total number of pages including cover sheet, attachments, and documents: 3

Mail documents to be recorded with required cover sheet information to:  
Commissioner of Patents & Trademarks, Box Assignments  
Washington, D.C. 20231

**ASSIGNMENT**

**WHEREAS**, the undersigned inventors, hereinafter called the "Assignors", have invented a new and useful invention entitled:

**EFFICIENT LDPC CODE DECODING WITH NEW MINUS OPERATOR IN A FINITE PRECISION RADIX SYSTEM**

for which reference a full description is here made in an application for Letters Patent of the United States filed herewith.

**WHEREAS**, **Broadcom Corporation**, a USA company having a principal office and place of business at, 16215 Alton Parkway Irvine California 92618-7013 hereinafter called the "Assignee", is desirous of acquiring the entire right, title and interest in and to said invention, the application above identified, and in, to and under Letters Patent which may be obtained for said invention, as hereinafter more fully set forth;

**NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN**, be it known that for valuable legally sufficient consideration, the receipt of which by the Assignors from the Assignee is hereby acknowledged, the Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer unto the Assignee, its successors and assigns, the entire right, title and interest in and to the invention and the application herein above identified, and all Letters Patents that may issue for the said invention, and all division, reissues, substitutions, continuations, and extensions thereof, to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns to the full end of the term for which any and all of said Letters Patents for the said invention may issue.

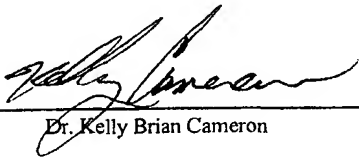
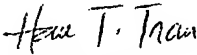
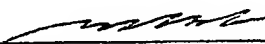
**FURTHER**, be it known that the Assignors have sold, assigned and transferred, and by these presents do sell, assign and transfer unto the Assignee, its successors and assigns, the entire foreign rights to the invention disclosed in said application, in all countries of the world, including the right to file applications and obtain patents under the terms of the International Convention, and further agrees to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights.

And the Assignors do hereby covenant and agree, for themselves and their legal representatives, that they will assist the Assignee in the prosecution of the application herein identified; in the making and prosecution of any other applications for Letters Patent that the Assignee may elect to make covering the invention herein identified, as herein before set forth, including any application for reissue, application for reexamination, application for foreign patent rights, or any proceeding in the United States Patent and Trademark Office affecting the invention, investing in the Assignee exclusive title in and to all such other applications and Letters Patent; and in the prosecution of any interference which may arise involving said invention, or any application or Letters Patents herein contemplated; that they will promptly execute and deliver to the Assignee any and all additional

papers and make all lawful oaths which may be requested by the Assignee to fully carry out the terms of this assignment; and further that they will communicate to Assignee, or to its successors, assigns, and legal representatives, and facts known respecting said invention, and at the expense of the Assignee, testify in any legal proceedings, and generally do everything possible to aid the Assignee, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

And the Commissioner of Patents and Trademarks is hereby authorized and requested to issue all Letters Patent to the Assignee in accordance with the terms of the assignment.

**IN TESTIMONY WHEREOF**, the Assignors have hereunto set their hands on the date indicated below.

 _____ Dr. Kelly Brian Cameron	<u>2/17/04</u> _____ date	 _____ Hau Thien Tran	<u>2/12/04</u> _____ date
 _____ Ba-Zhong Shen, Ph.D.	<u>2/12/04</u> _____ date	_____	_____ date
_____	_____ date	_____	_____ date